Faculty Working Papers

IT'S THE THOUGHT THAT COUNTS:

A SIGNED DIGRAPH ANALYSIS OF GIFT-GIVING

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ABSTRACT

Gift-giving ranks high in importance among the neglected areas of consumer behavior deserving research attention. This paper presents and tests a model of gift selection based on cognitive consistency theories. The model, which is supported by the data presented, offers a means for predicting the conditions under which giver or recipient tastes dominate gift selection, and for predicting the amount of satisfaction which the gift brings the giver.

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GIFT-GIVING

The phenomenon of selecting an object or service "X" to present as a gift to person "Y" on occasion "Z" is a unique and important act of consumer behavior.[1] Not only must the gift giver attempt to infer the recipient's tastes, needs, desires, and reactions, the gift selection may also be affected by the information which it would appear to convey about the giver and the giver-recipient relationship.[2] It is not surprising therefore that Hansen (1972) and Gronhaug (1972) have found differences in decision outcomes and information sources when a product is purchased as a gift rather than for personal use. Furthermore, the ancient practice of gift-giving is still pervasive and significant in modern cultures. For instance Lowes, Turner, and Wills (1971) cite a series of British Gallup Polls from 1963 through 1967, in which it was found that over 90 percent of the adult population did some Christmas gift-giving each year. Based on a more limited British sample, Bussey et al. (1967) found that the proportions of their Bradford sample giving wedding and birthday gifts during 1966, were both over 90 percent as well. And using another limited sample of middle and upper income families in Montreal, Caron and Ward (1975) found that third and fifth grade children received an anverage of between five and six gifts each at Christmas. Both because of its prevalance and because of its strong interpersonal meanings, gift-giving offers a potentially rich area for consumer behavioral explanation.

The Process of Gift-Giving Exchange

Gift-giving has been treated from a variety of related theoretical

perspectives, focusing primarily on the functions and effects of giving. The preeminant theoretical analysis of the gift-giving process is an essay by French anthropologist-sociologist Marcel Mauss (1923). Based on his examination of gift-giving among numerous primative, remote, or ancient societies, Mauss concluded that gift-giving is a self-perpetuating system of reciprocity. More specifically, Mauss outlined three types of obligations which perpetuate gift-giving:

1. The obligation to give,

2. The obligation to receive,

3. The obligation to repay.

The obligation to give may be based on moral or religious imperatives, the need to recognize and maintain a status hierarchy, the need to establish or maintain peaceful relations, or simply the expectation of reciprocal giving. These motives, which do not admit purely selfless giving, become institutionalized in a society so that under appropriate conditions an individual is socially obligated to give. Receiving is seen as similarly obligatory, and avoiding or refusing gifts is construed as an unfriendly or even hostile act. Mauss noted however that there is a certain tension created in receiving a gift since acceptance is an implicit recognition of dependence on the giver. This tension may then be reduced by fulfilling the third obligation, the obligation to repay. Failure to repay or failure to repay adequately, results in a loss of status and self-esteem. Adequate or overly adequate repayment on the other hand, creates an obligation to repay on the part of the original giver, and the cycle is reinitiated.

Mauss' student, Claude Levi-Strauss (1965) has extended the characterization of gift-giving as reciprocal exchange and has emphasized the complex game playing involved. In his view emotions are given greater recognition,

the
and security of tangible social support is a major payoff for successful
gift-giving participants. Levi-Strauss' student, Dillon (1968) has even
applied these concepts to international relations, and suggested that the
United States may be resented by many nations which receive U.S. aid because
they are unable to reciprocate without losing autonomy. Jones (1964) has
developed a comparable theory of ingratiation in which gift-giving is one
means of securing at least feigned affection. And Seipel (1971) has demon-
strated that the use of advertising premiums may create in recipients a need
to reciprocate by purchasing the advertiser's products.

Although not typically applied to gift-giving, the related perspectives
of distributive justice theory (Homans, 1961) and equity theory (Adams, 1963)
suggest further that "adequate" repayment may be determined relative to the
reciprocating person's ability and resources. Thus a small gift from a child
might adequately compensate a much more costly gift from an adult. Cultural
differences may also affect perceptions of gift adequacy. For instance,
Sherif and Sherif (1963) found that Navajo Indians judged that a gift of
wearing apparel for a loved one had to cost in excess of $17 before it would
bring pride to the giver, while for Black and White respondants, a $6 gift
was seen as adequate to cause pride. In assessing the type of gift which
constitutes an adequate exchange, Gouldner (1960) separated the cost to the
giver and the value to the recipient as two independent factors involved in
determining the worth of a gift. Tesser, Gatewood, and Driver (1968) found
evidence of these predicitions in measures of felt gratitude in hypothetical
gift-giving scenarios, and also demonstrated increases in gratitude when
the recipiant perceived that the giver sincerely wished to bestow a benefit
with the expectation of little or nothing in return. Whether givers are

frequently or ever motivated by such unselfish desires has been a matter of some debate. Leeds (1963) suggested that there are many instances in which the selfless "norm of giving" supercedes the "norm of reciprocity," and Titmus (1970) explains instances of annonymous unpaid blood doning this way. However a stream of research on helping behavior has generally failed to provide any compelling evidence of an altruism motive (see Krebs, 1970 and Bryan, 1972). While resolution of this debate may have important societal implications, at present Mauss' notion of obligatory exchange remains the most plausible explanation of the overall process of gift-giving.

The Act of Gift Selection

Schwartz (1967) noted that beyond the functions served by the general process of gift exchange, the characteristics of the gift itself also act as a powerful statement of the giver's perception of the recipient. He also suggested that acceptance of a particular gift constitutes an acknowledgement and acceptance of the identity that gift is seen to imply. Among children this may lead to lasting changes in self perceptions, but presumably gifts have less influence on the self concept of an adult. Nevertheless the importance of this symbolic function of gift selection appears clear enough in a gift shop's recent magazine advertisement which asked, "Is your sister-in-law a copper beating bowl or a twenty dollar bill?"

The advertisement just noted went on to ask "Do you want your gifts to tell some one how creative you are, how thoughtful you are, or just how big your Christmas bonus was? Do you buy with a specific price or a specific personality in mind?" While the answers to such basic questions about gift selection may be personally evident, the underlying behavioral questions have not been addressed by empirical research. A useful behavioral

rephrasing of the key issues here might be:

1. To what extent and under what conditions is gift selection based on giver traits and preferences?

2. To what extent and under what conditions is gift selection based on giver perceptions of recipient traits and preferences?

3. To what extent and under what conditions is gift selection based on both of the above considerations?

That is, when does the taste of the giver replace or compliment inferences about the taste of the recipient in determining choice of gifts? The answer, this study hypothesized, lies in a balance theoretic interpretation of gift selection.

BALANCE IN GIFT-GIVING

Just as the norm of reciprocity predicts a tendency toward value balance in the longitudinal process of gift-giving, so too may we expect a preference for balance in an individual's momentary cognitions about gift selection. For instance, if the giver likes the recipient and likes the gift chosen, for balance to occur the recipient should also be expected to like the gift. So far this is the simple P-O-X triad of Heider (1958). However more than this is involved. Consider a case in which the giver is a 12-year-old boy and the recipient is his 35-year-old mother. The boy would not predict that because he loves his mother and also likes footballs that his mother should also appreciate receiving a football for her birthday. (Although interestingly people may sometimes seek this sort of balance in order to obtain consensual validation of personal tastes.) What is needed instead is a consideration of the extent to which the giver and receiver are

similar. With the introduction of this relationship, the prediction becomes
that a liked recipient should (for balance) be expected to like a gift which
the giver dislikes, if the giver and receiver are very dissimilar.[3] But
there is still one further relationship which modifies this prediction: the
giver's degree of satisfaction with his or her self concept. The full
paradigm with this last relationship is shown in Figure 1.

---INSERT FIGURE 1 ABOUT HERE---

The bottom triad (P-O-C) of this figure is the basic Heider balance
model with which we began. The top (P-P'-O) triad is a modified version of
Byrne's (1971) attraction paradigm. Essentially Byrne hypothesized that
greater similarity between persons causes greater attraction between them.
Byrne amassed much evidence supporting this hypothesis, although it has not
gone unchallenged (See Taylor, 1970). The modification of the attraction
paradigm here is the addition of self concept. This modification is
supported by some evidence of the attraction-modifying effect of differences

between self concept and ideal self concept (Byrne, 1968; Deutsch and
Solomon, 1959) and by the propositions of Secord (1968) and Smith (1968) that
other types of balance are affected by self evaluation as well. The remain-
ing four-element relationship in Figure 1 (P-P'-O-G) suggests that the giver
would select a personally appealing gift for a similar recipient who is also
perceived to like such a gift only when the giver's self concept is positive.
To make such a selection when the giver's self concept is negative would
cause imbalance due to doubt about the worth of a gift which appeals to a
giver who perceives little self worth (Neisser, 1973). But this balance
prediction is based only on the P-P'-O-G loop in the paradigm. To assess
total balance, the P-P'-O and P-O-G triads must also be considered. An
understanding of balance in this context requires further discussion of the
signed digraph.

Measuring Balance in a Signed Digraph

A directed graph or "digraph" consists of a set of points (representing
concepts), a set of lines connecting them (representing concept relationships),
and a set of pointers (showing direction of relationships). In the digraph
of Figure 1, the sign of the relationship is also shown (relationships in-
volving the words in parentheses are negative), so this is a signed digraph.
Development of techniques for analyzing signed digraphs is still progressing,
but has made the most progress in studies of small group structural balance
(Cartwright and Harary, 1956; Harary, Norman, and Cartwright, 1965; Feather,
1964) and mutual casual systems (Maruyama, 1960, 1963; Roberts, 1971).
Using a set of theorems derived by Harary, Norman and Cartwright (1965), the
basis for assessing digraph balance is semicycle balance. A semicycle is a

subset of points x_1, x_2, ..., x_n, together with n-1 lines connecting adjacent pairs of these points, such that a path may be followed from x_1 through all other points in the subset and back to x_1, without passing through any point more than once. Thus P-P'-O-P, P-O-G-P, and P-P'-O-G-P are the semicycles in Figure 1. A semi-cycle is balanced if the product of its signs is positive. The two triads here are each balanced by the occurence of zero or two negative signs and the P-P'-O-G-P semicycle can be balanced by zero, two, or four negative signs. For balance of the complete signed digraph, all three of these semi-cycles must be balanced. Of the 32 configurations possible, only those eight shown in Figure 2 are balanced by this rule.

INSERT FIGURES 2 ABOUT HERE

For predictive purposes it is also desireable to be able to measure the degree of balance of a signed digraph. Although several methods have been proposed (Harary Norman and Cartwright, 1965; Marrissette, 1958; Morrissette, Jahnke, and Baker, 1966; Abelson and Rosenberg, 1958), the present application is a fairly general one based on recent work by Norman and Roberts (1972 a, b). The measure of the form $\Sigma f(m) c_m^+ / \Sigma f(m) c_m$, where c_m^+ is the number of balanced semicycles of length m, c_m is the total number of semicycles of length m, and $f(m)$ is a monotone decreasing function of m. This amounts to weighting shorter semicycles move heavily than larger semicycles, because they represent move direct chains of reasoning. Norman and Roberts (1972a) provide some discussion of how to choose the function f(m), but in the present model any decreasing by monotone function provides the same balance ordering of configurations, and $1/m$ was chosen. Using this weighting function, Table 1 shows the possible balance ratios.

INSERT TABLE 1 ABOUT HERE

Conditions and Consequences of Imbalance

The prediction of all balance and related consistency theories is not that digraphs are always balanced, but rather that imbalance creates tension and pressures toward balance. Longitudinally this should result in a change toward balance (Taylor's (1970) "Balance tendency") when imbalance occurs. At a fixed time, balance pressures should cause individual to choose balance over imbalance (Taylor's (1970) "Balance Preference"). Since the current study is a cross-sectional examination of gift giving, it represents a test of the balance preference hypothesis. The study also measures balance after gift reception, so that some imbalance may occur soley because the giver was incorrect in estimating recipient preferences. Such misestimation is predicted to be more probable in instances in which the gift giver is not highly familiar with the recipient and where the giver and recipient have not established a history of reciprocal gift exchange. When imbalance does occur it is predicted that the giver will report more dissatisfaction with the gift siection than in instances involving balanced configurations. Such dissatisfaction should be a reflection of tension and an incentive for subsequent charges in cognitions or gift-giving behaviors involving the same recipient. The greater the degree of imbalance in a particular exchange, the stronger the relationships with the predicted antecedant and consequent conditions should be.

<div align="center">THE STUDY</div>

Methods

The data to be presented are initial results from an intensive study of gift-giving by 73 residents of metropolitan Philadelphia during 1973.[4] Participants were recruited from several church, school, and civic groups, and ranged in age from 14 to 65. Each subject received a self-administered

questionnaire booklet, a return envelope, and instructions for completing
the questionnaire. The 73 usable responses were obtained from 76 questionnaires
returned from the 118 distributed. The portion of the questionnaire to be
analyzed here asked each subject to describe three instances of recent (the
past year's) gift-giving and to describe certain personal characteristics.
Since it was necessary that respondents also describe recipient characteristics,
several reported instances had to be eliminated where the recipient was a new-
born baby or infant. Also eleiminated from analysis were several instances in
which a couple of family rather than an individual was the gift recipient. This
left 193 gift-giving instances for analysis.

Descriptions of the operationalized measures of the relationships specified
in Figure 1 are given below. Even though some of these measures were initially
continuous, they were converted to dichotomies (positive/negative) for analysis.

P-P' A modified version of the Index of Adjustment and Values by Bills,
Vance, and McLean (1931) was used to measure actual and ideal self concept. This
instrument had subjects rate themselves on a series of 40 adjectives (Table 2)
using three separate five point scales representing self concept, satisfaction

INSERT TABLE 2 ABOUT HERE

with self concept, and ideal self concept. The sum of the absolute differences
between actual and ideal scores on each attribute was taken as a measure of
self evaluation, and a level approximating a median split was chosen to yield
a positive/negative rendering of the P-P' relationship.

P'-O The same set of adjectives shown in Table 2 were used in measures of
giver perceptions of the recipient on five point scales comparable to those used
in measuring self-concept. The sum of absolute differences between actual self-
concept scores and perceived recipient scores on each attribute was taken as a

measure of giver-receiver similarity. The same level used in assessing the sign of P-P' was used to categorize similar (+) and dissimilar (-) P'-O relationships. This resulted in approximately three-fourths of these relationships being categorized as dissimilar.

P-O The giver's liking of the recipient was measured on a five point scale ranging from "I like this person as much as I do anyone" to "I dislike this person as much as I do anyone." Even considering the neutral category to be a "dislike" evaluation, only 10 recipients were evaluated negatively. Some social desireability must be present in these responses, but it is also reasonable to assume that gifts are not normally given to people who are disliked.

P-G The giver's evaluation of the gift was taken from a five point scale ranging from "not at all appealing" to "appeals to me very much." The mid-point "mildly appealing", was considered to be positive, leaving only about one-fourth of the P-G evaluations in the negative category.

O-G The giver's perception of the recipient's affect toward the gift was obtained from a forced-choice question following the description of all three gift-giving instances. At this point the subject was asked with which of the three gifts the recipient was most pleased. The alternative responses, "none seemed especially pleased" and "all seemed about equally pleased" were also allowed. For a particular gift, if the latter alternative or that gift was cited, a positive sign was recorded; otherwise a negative sign was recorded. Overall this resulted in approximately 40 percent negative signs for the O-G relationship. Basing categorizations in this manner on relative recipient evaluations, was intended to overcome the positive evaluation bias which would otherwise be present due to the social desireability of gift acceptance over gift rejection.

more likely when the giver and recipient had not established a prior history
of reciprocal giving and when the recipient was not a close member of the
giver's family. As Table 5 illustrates, these antecedant conditions were
related to the degree of balance obtained as hypothesized. Gift giving

INSERT TABLE 5 ABOUT HERE

instances involving close relatives and a prior history of gift exchange
were most likely to result in balanced cognitive configurations.

DISCUSSION

The proposed model of balance in gift giving has been found to be viable
and useful in understanding the process of gift selection and evaluation.
While current data points are momentary instances in the often on-going process
of gift exchange between a giver and a recipient, a general preference for
balance was observed at these points. Moreover in instances in which balance
was not present, strong evidence was found of giver dissatisfaction, or un-
resolved tension in the cognitive system examined. This tension might then
be reduced in several ways. If feasible, cognitive restructuring of the
digraph signs should be the preferred means of tension reduction. It is
likely that some such restructuring had already taken place at the time when
the current data was collected. Nevertheless, the many remaining instances
of imbalance show that this means of tension reduction may be limited. Limits
would exist for instance in the willingness of a giver to change a self-
evaluation or an evaluation or perception of the characteristics of a
close family member recipient. When restructuring fails, two alternative means
of reducing tension remain when the giver is able to mimimize the importance
of the gift (and the nature of the occasion does not contradict the minimization)

and when the giver is able to deny that free choice of gifts was available (perhaps due to time pressure or following another's suggestion). Eventually unresolved tension might be canceled by comparable imbalance (as seen by the current giver) in the original recipient's choice of a reciprocal gift. This would in effect be saying "Now I don't feel so badly because you have made a similar mistake."). Finally, since gift giving is often a recurring situation, the giver may learn from imbalance to adjust his expectations and choices at the next opportunity in order to achieve balance on that occassion. This learning process is reflected in the current findings that there is less likely to be imbalance when the recipient is a close family member and when there is a prior history of reciprocal giving.

While the present application of signed digraph analysis has used cross-sectional survey data, the technique is also receptive to the longitudinal and experimental data which will be needed for more complete testing of the model. Furthermore, as Roberts (1971) points out, many refinements of the current methods of modeling and analysis are possible. For instance, rather than simply measure the direction of a relationship, it is possible to incorporate strength of the relationship into calculations of balance; rather than assume that the relationship between two variables is linear, more complex functions might be fitted. Even without such refinements signed digraph analysis appears to be a helpful means of considering sets of innerlinked variable relationships and testing both static and dynamic predictions from such sets. As such it should find growing use in examinations of the many processes of interest on consumer behavior.

CONCLUSION

There can be little doubt that gift-giving is a pervasive experience in human life and consumer behavior. Compared to more routine consumer purchases, gift selection is a very deliberate and highly involving type of consumer choice, and should prove a fruitful area for the development and testing of consumer behavioral concepts. Despite the additional variables which gift-giving introduces to conceptions of consumer behavior (e.g. characteristics of the recipient, giver-reciever similarity, nature of the occasion), the present findings suggest that preference for cognitive balance is a concept which can go far toward explaining gift selection and evaluation. In addition to demonstrating some utility for a balance theoretic interpretation of gift-giving, this paper has noted several related theoretical perspectives to which little attention has yet been given. Both the importance of the problem areas and the existance of theoretical bases, demand that the acts and processes of gift selection, reception, and exchange, recieve increased attention in future research.

FOOTNOTES

[1] While gift-giving may be more broadly conceived to include philanthropic, political, and religious donations of money and services, blood and other medical donations, and altruistic behavior in general, the focus of this paper is on those aspects of gift-giving involving the selection and transfer of material objects and purchased services offered in fulfillment of a traditional social obligation, such as a birthday, Christmas, or wedding anniversary present.

[2] It will be noted that these characteristics of gift-giving bear some relationship to instances in which one family member acts as a "purchasing agent" for other family members. But compared to gift-giving, such purchasing is more routine, less laden with symbollic meanings, and more typically involves repeated purchases of minor nondurables. The distinction between routine family purchasing and gift-giving might also be seen in terms of differences in perceived risk (see Hart, 1973).

[3] Actually it is the giver's perceptions of giver-recipient similarity and recipient gift evaluation that matter in approaching balance from the point of view of the giver (who controls the important behavioral link of the paradigm through selection of the gift).

[4] Responses were collected during May and June.
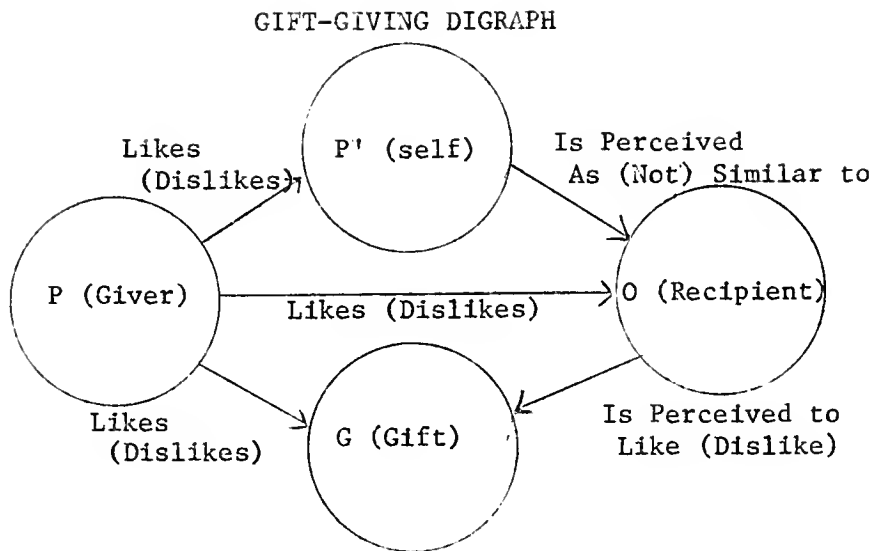
FIGURE 1

GIFT-GIVING DIGRAPH
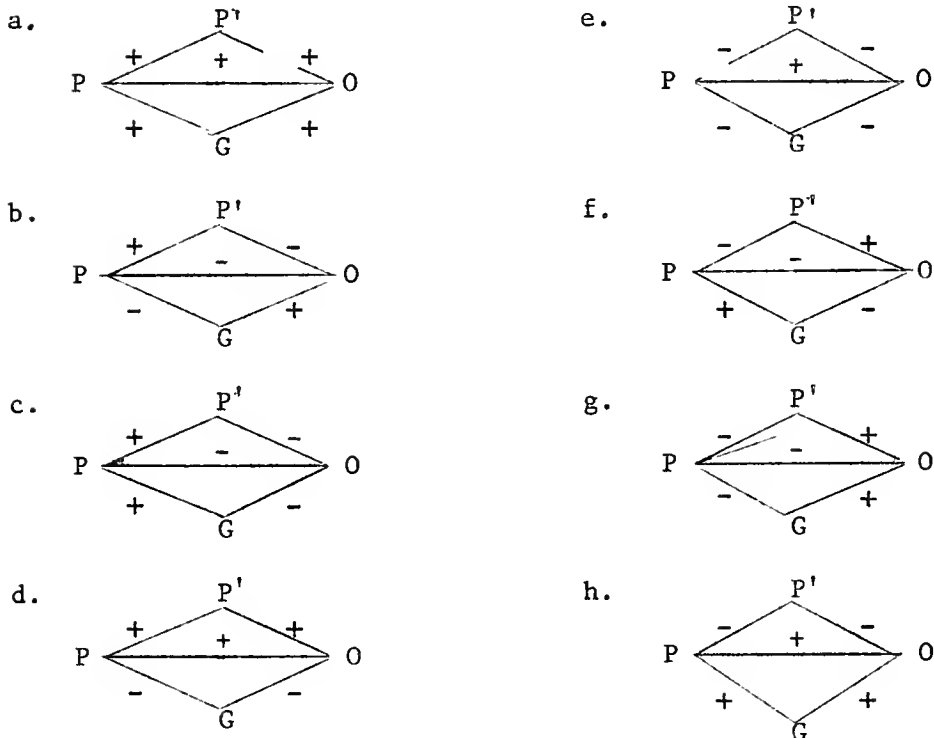

FIGURE 2

EIGHT BALANCED GIFT-GIVING CONFIGURATIONS

TABLE 1

POSSIBLE BALANCE RATIOS FOR A DIGRAPH
WITH 2 SEMICYCLES OF LENGTH THREE
AND 1 SEMICYCLE OF LENGTH FOUR

	Number of Balanced Semicycles		
Configuration Type	Length m = Three	Length m = Four	Balance Ratio*
1	2	1	1.00
2**	2	0	.79
3**	1	1	.69
4	1	0	.40
5	0	1	.30
6**	0	0	0.00

*Using Balance = $\Sigma(1/m)c_m{}^+/\Sigma(1/m)c_m$

**Impossible to obtain in present digraph structure

TABLE 2

ADJECTIVES USED IN MEASURING
GIVER SELF-CONCEPT AND RECIPIENT PERCEPTION

1. Adventurous	11. Considerate	21. Helpful	31. Poised
2. Appreciative	12. Cruel	22. Imaginative	32. Reckless
3. Artistic	13. Dependable	23. Informal	33. Sarcastic
4. Attractive	14. Emotional	24. Intelligent	34. Selfish
5. Broad-minded	15. Energetic	25. Interesting	35. Sincere
6. Busy	16. Fashionable	26. Kind	36. Stubborn
7. Calm	17. Fault-finding	27. Mature	37. Successful
8. Clever	18. Friendly	28. Merry	38. Tactful
9. Competitive	19. Fun-loving	29. Outgoing	39. Thrifty
10. Confident	20. Generous	30. Orderly	40. Unconventiona

TABLE 3

OBSERVED VERSUS EXPECTED FREQUENCIES
OF CONFIGURATION BALANCE

Balance Ratio*	Expected Frequency**		Observed Frequency	
1.00 (completely balanced	55	(28.5%)	77	(39.9%)
.40	96	(49.7%)	79	(41.0%)
.30 (least balanced)	42	(21.8%)	37	(19.1%)
Total	193	(100.0%)	193	(100.0%)

Badness of fit.: χ^{2***} = 12.1 (p $\leq$ .001)

*From Table 2
**Assuming independence of relationships: calculated as product of the
  obtained proportions of each sign that is involved in a configuration;
  resulting proportions are then multiplied by total number of observations
  (193) and the expected frequencies are added for all configurations
  which yield the same balance ratio.

Example

The approximate obtained proportion of positive signs for each
relationship in the model is:

Relationship	p(+)	p(-)	p(+) + p(-)
P-P	.50	.50	1.00
P-O	.95	.05	1.06
P-G	.75	.25	1.00
P'-O	.25	.75	1.00
O-G	.60	.40	1.00

Therefore the joint expected proportion of all cases of the balanced digraph
in Figure 2a. (in which all signs are positive) is (.50) (.95) (.75) (.25)
(.60) = .05 of 193, or 10 cases of the configuration. (Sixteen such
configurations were actually obtained.)

*** corrected for continuity

TABLE 4

SATISFACTION WITH GIFT SELECTION
AS A FUNCTION OF DEGREE OF CONFIGURATION BALANCE

Balance Ratio	Satisfaction with Gift Selection		
	High	Low	Total
1.00 (completely balanced)	58 (75.3%)	19 (24.7%)	77 (100.0%)
.40	39 (49.4%)	40 (50.6%)	79 (100.0%)
.30 (least balanced)	13 (35.1%)	24 (64.9%)	37 (100.0%)

$$\chi^2 = 18.1 \quad (p \leq .001)$$

TABLE 5

CONFIGURATION BALANCE AS A FUNCTION OF
GIFT EXCHANGE HISTORY AND RELATIONSHIP WITH RECIPIENT

Balance Ratio	Prior Two-way Gift Exchange?		Relationship with Recipient		Totals
	No	Yes	Close*	Distant	
1.00 (completely balanced)	8(14.8%)	69(85.2%)	60(77.9%)	17(22.1%)	77(100%)
.40	15(19.0%)	64(81.0%)	49(62.0%) ·	30(38.0%)	79(100%)
.30 (least balanced)	11(29.7%)	26(70.3%)	16(43.2%)	21(56.8%)	37(100%)

$$\chi^2 = 6.6 \ (p \leq .05) \qquad \chi^2 = 15.1 \ (p \leq .001)$$

*Giver's child, parent, spouse or intended spouse, sibling, grandparent, or grandchild. Does not include more distant relatives, in-law, friends, co-workers, neighbors, or others.

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